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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/824,475	04/15/2004	Satoshi Okamoto	Q81049	6492
23373	7590	12/08/2004	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			BOYKIN, TERRESSA M	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/824,475

Applicant(s)

OKAMOTO ET AL.

Examiner

Terressa M. Boykin

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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**Priority**

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

**Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by USP 6808766 note abstract, cols. 2-20, examples 20-23, tables 1 and 2 and claims 1 and 2.**

Applicant's claims are directed to a liquid-crystalline polyester solution composition comprising an aprotic solvent and, liquid-crystalline polyester comprising at least one of repeating unit selected from the group consisting of a repeating unit derived from aromatic diamine, a repeating unit derived from aromatic amine having a hydroxyl group and a repeating unit derived from aromatic amino acid, in from 10 to 35 mol % in the liquid-crystalline polyester.

With regard to claims 1, 8 and 10 note that the reference **USP 6808766** discloses a liquid crystal alignment agent used in a method for alignment of liquid crystal molecules that form a liquid crystal alignment film comprising irradiating a thin alignment film formed on a substrate with polarized light or electron rays and aligning the liquid crystal molecules on the substrate without any rubbing treatment, said liquid crystal alignment agent comprising a polymer compound selected from the group consisting of polyurethane and a polyurea comprising a structure selected from the group consisting of the general formulas (1)-(7) as disclosed therein.

With regard to claims 2 and 8 note that the reference discloses examples of monomer compounds for the production of the di-carboxylic acid component corresponding to R<sub>10</sub> in the general formula (18) above are aromatic group or aromatic containing di-carboxylic acid and their acid halide and alkylesterification product such as terephthalic acid, isophthalic acid, 2-methyl-isophthalic acid, 4-methyl-isophthalic acid, 5-methyl-isophthalic acid, 5-aryloxyisophthalic acid, 5-aryloxycarbonylisophthalic acid, , 5-acetyloxyisophthalic acid, 5-benzoylaminoisophthalic acid, tetrafluoroisophthalic acid, methylterephthalic acid, tetraorthoterephthalic acid, tetrafluoroisophthalic acid, methylterephthalic acid, tetrafluoroterephthalic acid, 2,6-naphthalene dicarboxylic acid, etc.

Further with regard to claims 2 and 8, the reference discloses the use of diamine compound such as p-phenylenediamine, m-phenylenediamine, methyl-p-phenylenediamine, 4-methyl-m-phenylenediamine, 2,4,6-trimethyl-m-phenylenediamine, 4,4'-diaminobiphenyl, 3,3'-dimethyl-4,4'-diaminobiphenyl, 4,4'-

diaminodiphenylether, 4,4'-diaminodiphenylmethane, 3,3'-dimethyl-4,4'-diaminodiphenylmethane, 4,4'-diaminodiphenylsulfone, 2,2-bis [4-(4-aminophenoxy) phenyl] propane is preferred from the standpoint of sensitivity to the photo reaction as well as the easy availability of raw materials. Further, diamine components generally used in polyimide synthesis can be used as long as they are within the range of manifesting the effect of the reference. Typical examples as such are aromatic diamines such as p-phenylene diamine, m-phenylene diamine, 2,5-diaminotoluene, 2,6-diaminotoluene, 4,4'-diaminobiphenyl, 3,3'-dimethyl-4,4'-diaminobiphenyl, 3,3'-dimethoxy-4,4'-diaminobiphenyl, 4,4'-diaminodiphenylmethane, 4,4'-diaminodiphenylether, 2,2-bis (4-aminophenyl) propane, bis (4-amino-3,5-diethylphenyl) methane, 4,4'-diaminodiphenylsulfone, etc.

Lastly, typical examples of a monomer compound in forming diol component of the reference are resorcinol, hydroquinone, 4-methylresorcinol, 5-methylhydroquinone, bisphenol A, 4,4'-biphenol, 3,3'-dimethyl-4,4'-biphenol, 4,4'-dihydroxy diphenylether, 3,4'-dihydroxy diphenylether, 4,4'-dihydroxy diphenylmethane, 3,3'-dimethyl-4,4'-dihydroxy diphenylmethane, 4,4'-dihydroxy diphenylsulfone, 1,3-cyclohexane diol and 1,4-cyclohexane diol as preferred example.

With regard to claims 3 - 7 the reference discloses typical examples of the solvents which may be employed are N-methyl-2-pyrrolidone, N,N-dimethylacetoamide and N,N-dimethylformamide. The solvents can be used alone or they can be used in a mixture.

With regard to claim 9, note that the reference discloses that the liquid solution is

applied on the substrate, thereby forming the polyamide film over the substrate by the evaporation of solvent. Temperature for this purpose is adequate if the solvent can evaporate, and the preferred temperature is normally 80 – 200 C.

Thus, the reference discloses a liquid crystalline polyester solution composition prepared from the same components as claimed by applicants. Thus in view of the above, there appears to be no significant difference between the reference and that which is claimed by applicant(s). Any differences not specifically mentioned appear to be conventional. Consequently, the claimed invention cannot be deemed as novel and accordingly is unpatentable.

### **Correspondence**

**Please note that the cited U.S. patents and patent application publications are available for download via the Office's PAIR. As an alternate source, all U.S. patents and patent application publications are available on the USPTO web site ([www.uspto.gov](http://www.uspto.gov)), from the Office of Public Records and from commercial sources. Applicants may be referred to the Electronic Business Center (EBC) at <http://www.uspto.gov/ebc/index.html> or 1-866-217-9197.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Terressa Boykin whose telephone number is 571 272-1069. The examiner can normally be reached on Monday through Friday from 6:30am to 3:00pm.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. The general information number for listings of personnel is ( 571-272-1700).

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tmb



Examiner Terressa Boykin  
Primary Examiner  
Art Unit 1711